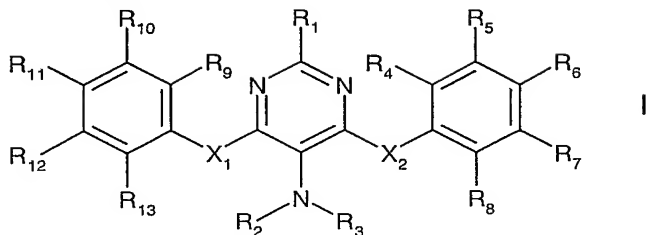


What we claim is:

1. Use of a compound of formula



wherein

R₁ is hydrogen, halogen, cyano, OH, SH, NO₂, COOH, COOR₂, CONH₂, CONR₂R₃, SO₃H, SO₂NR₂R₃, C₁-C₆-alkyl, halo-C₁-C₆-alkyl, C₁-C₆-alkoxy, halo-C₁-C₆-alkoxy, C₂-C₆-alkenyl, halo-C₂-C₆-alkenyl, C₂-C₆-alkinyl, C₃-C₆-cycloalkyl, halo-C₃-C₆-cycloalkyl, C₃-C₆-cycloalkyloxy, C₃-C₆-cycloalkylthio, C₂-C₆-alkenyloxy, halo-C₂-C₆-alkenyloxy, C₁-C₆-alkylthio, halo-C₁-C₆-alkylthio, C₁-C₆-alkylsulfonyloxy, halo-C₁-C₆-alkylsulfonyloxy, C₁-C₆-alkylsulfinyl, halo-C₁-C₆-alkylsulfinyl, C₁-C₆-alkylsulfonyl, halo-C₁-C₆-alkylsulfonyl, C₂-C₆-alkenylthio, halo-C₂-C₆-alkenylthio, C₂-C₆-alkenylsulfinyl, halo-C₂-C₆-alkenylsulfinyl, C₂-C₆-alkenylsulfonyl, halo-C₂-C₆-alkenylsulfonyl, NR₂R₃, unsubstituted or one- to five-fold substituted aryl or unsubstituted or substituted hetaryl, the substituents selected from the group consisting of halogen, cyano, OH, SH, NO₂, COOH, COOR₂, CONH₂, CONR₂R₃, SO₃H, SO₂NR₂R₃, C₁-C₆-alkyl, halo-C₁-C₆-alkyl, C₁-C₆-alkoxy, halo-C₁-C₆-alkoxy, C₂-C₆-alkenyl, halo-C₂-C₆-alkenyl, C₂-C₆-alkinyl, C₃-C₆-cycloalkyl, halo-C₃-C₆-cycloalkyl, C₃-C₆-cycloalkyloxy, C₃-C₆-cycloalkylthio, C₂-C₆-alkenyloxy, halo-C₂-C₆-alkenyloxy, C₁-C₆-alkylthio, halo-C₁-C₆-alkylthio, C₁-C₆-alkylsulfonyloxy, halo-C₁-C₆-alkylsulfonyloxy, C₁-C₆-alkylsulfinyl, halo-C₁-C₆-alkylsulfinyl, C₁-C₆-alkylsulfonyl, halo-C₁-C₆-alkylsulfonyl, C₂-C₆-alkenylthio, halo-C₂-C₆-alkenylthio, C₂-C₆-alkenylsulfinyl, halo-C₂-C₆-alkenylsulfinyl, C₂-C₆-alkenylsulfonyl, halo-C₂-C₆-alkenylsulfonyl and NR₂R₃;

R₂ and R₃, independently of one another, signify hydrogen, C₁-C₆-alkyl, halo-C₁-C₆-alkyl, formyl, C₁-C₆-alkylcarbonyl, halo-C₁-C₆-alkylcarbonyl, C₁-C₆-alkoxycarbonyl, halo-C₁-C₆-alkoxycarbonyl, C₁-C₆-alkylaminocarbonyl, di-C₁-C₆-alkylaminocarbonyl or unsubstituted or one- to five-fold substituted benzyl, the substituents selected from the group consisting of halogen, cyano, OH, SH, NO₂, COOH, COOR₂, CONH₂, CONR₂R₃, SO₃H, SO₂NR₂R₃, C₁-C₆-alkyl, halo-C₁-C₆-alkyl, C₁-C₆-alkoxy, halo-C₁-C₆-alkoxy, C₂-C₆-alkenyl, halo-C₂-C₆-alkenyl, C₂-C₆-alkinyl, C₃-C₆-cycloalkyl, halo-C₃-C₆-cycloalkyl, C₃-C₆-cycloalkyloxy, C₃-C₆-cycloalkylthio, C₂-C₆-alkenyloxy, halo-C₂-C₆-alkenyloxy, C₁-C₆-alkylthio, halo-C₁-C₆-alkylthio,

C₁-C₆-alkylsulfonyloxy, halo-C₁-C₆-alkylsulfonyloxy, C₁-C₆-alkylsulfinyl, halo-C₁-C₆-alkylsulfinyl, C₁-C₆-alkylsulfonyl, halo-C₁-C₆-alkylsulfonyl, C₂-C₆-alkenylthio, halo-C₂-C₆-alkenylthio, C₂-C₆-alkenylsulfinyl, halo-C₂-C₆-alkenylsulfinyl, C₂-C₆-alkenylsulfonyl and halo-C₂-C₆-alkenylsulfonyl;

R₄, R₅, R₆, R₇, R₈, R₉, R₁₀, R₁₁, R₁₂ and R₁₃, independently of one another, are hydrogen, halogen, cyano, nitro, OH, SH, NO₂, COOH, COOR₂, CONH₂, CONR₂R₃, SO₃H, SO₂NR₂R₃, C₁-C₆-alkyl, halo-C₁-C₆-alkyl, C₁-C₆-alkoxy, halo-C₁-C₆-alkoxy, C₂-C₆-alkenyl, halo-C₂-C₆-alkenyl, C₂-C₆-alkinyl, C₃-C₆-cycloalkyl, C₂-C₆-alkenyloxy, halo-C₂-C₆-alkenyloxy, C₁-C₆-alkylthio, halo-C₁-C₆-alkylthio, C₁-C₆-alkylsulfonyloxy, halo-C₁-C₆-alkylsulfonyloxy, C₁-C₆-alkylsulfinyl, halo-C₁-C₆-alkylsulfinyl, C₁-C₆-alkylsulfonyl, halo-C₁-C₆-alkylsulfonyl, C₂-C₆-alkenylthio, halo-C₂-C₆-alkenylthio, C₂-C₆-alkenylsulfinyl, halo-C₂-C₆-alkenylsulfinyl, C₂-C₆-alkenylsulfonyl, halo-C₂-C₆-alkenylsulfonyl, C₁-C₆-alkylamino, di-C₁-C₆-alkylamino, C₁-C₆-alkylsulfonylamino, halo-C₁-C₆-alkylsulfonylamino, C₁-C₆-alkylcarbonyl, halo-C₁-C₆-alkylcarbonyl, C₁-C₆-alkoxycarbonyl, C₁-C₆-alkylaminocarbonyl, di-C₁-C₆-alkylaminocarbonyl, or unsubstituted or one- to five-fold substituted aryl or unsubstituted or substituted hetaryl, the substituents selected from the group consisting of halogen, cyano, OH, SH, NO₂, COOH, COOR₂, CONH₂, CONR₂R₃, SO₃H, SO₂NR₂R₃, C₁-C₆-alkyl, halo-C₁-C₆-alkyl, C₁-C₆-alkoxy, halo-C₁-C₆-alkoxy, C₂-C₆-alkenyl, halo-C₂-C₆-alkenyl, C₂-C₆-alkinyl, C₃-C₆-cycloalkyl, halo-C₃-C₆-cycloalkyl, C₃-C₆-cycloalkyloxy, C₃-C₆-cycloalkylthio, C₂-C₆-alkenyloxy, halo-C₂-C₆-alkenyloxy, C₁-C₆-alkylthio, halo-C₁-C₆-alkylthio, C₁-C₆-alkylsulfonyloxy, halo-C₁-C₆-alkylsulfonyloxy, C₁-C₆-alkylsulfinyl, halo-C₁-C₆-alkylsulfinyl, C₁-C₆-alkylsulfonyl, halo-C₁-C₆-alkylsulfonyl, C₂-C₆-alkenylthio, halo-C₂-C₆-alkenylthio, C₂-C₆-alkenylsulfinyl, halo-C₂-C₆-alkenylsulfinyl, C₂-C₆-alkenylsulfonyl, halo-C₂-C₆-alkenylsulfonyl and NR₂R₃;

X₁ and X₂, independently of one another, are C(R₁₄)(R₁₅), NR₁₄, O, S, SO or SO₂; and

R₁₄ and R₁₅, independently of one another, signify hydrogen, C₁-C₆-alkyl, formyl, C₁-C₆-alkylcarbonyl or halo-C₁-C₆-alkylcarbonyl;

in the control of ectoparasites on animals.

2. Use of a compound of formula according to claim 1, wherein

R₁ is hydrogen, halogen, NO₂, C₁-C₆-alkyl, halo-C₁-C₆-alkyl, C₁-C₆-alkoxy, halo-C₁-C₆-alkoxy, C₃-C₆-cycloalkyl, halo-C₃-C₆-cycloalkyl, C₃-C₆-cycloalkyloxy, C₃-C₆-cycloalkylthio, C₁-C₆-alkylthio or halo-C₁-C₆-alkylthio.

3. Use of a compound of formula according to claim 1, wherein

R₁ is hydrogen, halogen, NO₂, C₁-C₆-alkyl, halo-C₁-C₆-alkyl, C₁-C₆-alkoxy or halo-C₁-C₆-alkoxy.

4. Use of a compound of formula according to claim 1, wherein

R₁ is hydrogen, C₁-C₆-alkyl or C₁-C₆-alkoxy.

5. Use of a compound of formula according to claim 1, wherein

R₂ and R₃, independently of one another, signify hydrogen, C₁-C₆-alkyl, formyl, C₁-C₆-alkylcarbonyl, C₁-C₆-alkoxycarbonyl, C₁-C₆-alkylaminocarbonyl, di-C₁-C₆-alkylaminocarbonyl or unsubstituted or one- to five-fold substituted benzyl, the substituents selected from the group consisting of halogen, cyano, OH, SH, NO₂, COOH, COOR₂, CONH₂, CONR₂R₃, SO₃H, SO₂NR₂R₃, C₁-C₆-alkyl, halo-C₁-C₆-alkyl, C₁-C₆-alkoxy, halo-C₁-C₆-alkoxy, C₂-C₆-alkenyl, halo-C₂-C₆-alkenyl, C₂-C₆-alkinyl, C₃-C₆-cycloalkyl, halo-C₃-C₆-cycloalkyl, C₃-C₆-cycloalkyloxy, C₃-C₆-cycloalkylthio, C₂-C₆-alkenyloxy, halo-C₂-C₆-alkenyloxy, C₁-C₆-alkylthio, halo-C₁-C₆-alkylthio, C₁-C₆-alkylsulfonyloxy, halo-C₁-C₆-alkylsulfonyloxy, C₁-C₆-alkylsulfinyl, halo-C₁-C₆-alkylsulfinyl, C₁-C₆-alkylsulfonyl, halo-C₁-C₆-alkylsulfonyl, C₂-C₆-alkenylthio, halo-C₂-C₆-alkenylthio, C₂-C₆-alkenylsulfinyl, halo-C₂-C₆-alkenylsulfinyl, C₂-C₆-alkenylsulfonyl and halo-C₂-C₆-alkenylsulfonyl.

6. Use of a compound of formula according to claim 1, wherein

R₂ and R₃, independently of one another, signify hydrogen, C₁-C₄-alkyl, formyl, C₁-C₄-alkylcarbonyl or benzyl.

7. Use of a compound of formula according to claim 1, wherein

R₂ and R₃, independently of one another, signify hydrogen, C₁-C₂-alkyl, benzyl or formyl.

8. Use of a compound of formula according to claim 1, wherein

R₄, R₅, R₆, R₇, R₈, R₉, R₁₀, R₁₁, R₁₂ and R₁₃, independently of one another, are hydrogen, halogen, cyano, nitro, C₁-C₆-alkyl, halo-C₁-C₆-alkyl, C₁-C₆-alkoxy, halo-C₁-C₆-alkoxy, C₃-C₆-cycloalkyl, C₁-C₆-alkylthio, halo-C₁-C₆-alkylthio or unsubstituted or one- to five-fold substituted aryl or unsubstituted or substituted hetaryl, the substituents selected from the group consisting of halogen, cyano, OH, SH, NO₂, COOH, COOR₂, CONH₂, CONR₂R₃, SO₃H, SO₂NR₂R₃, C₁-C₆-alkyl, halo-C₁-C₆-alkyl, C₁-C₆-alkoxy, halo-C₁-C₆-alkoxy, C₂-C₆-alkenyl, halo-C₂-C₆-alkenyl, C₂-C₆-alkinyl, C₃-C₆-cycloalkyl, halo-C₃-C₆-cycloalkyl, C₃-C₆-cycloalkyloxy, C₃-C₆-cycloalkylthio, C₂-C₆-alkenyloxy, halo-C₂-C₆-alkenyloxy, C₁-C₆-alkylthio, halo-C₁-C₆-alkylthio, C₁-C₆-alkylsulfonyloxy, halo-C₁-C₆-alkylsulfonyloxy, C₁-C₆-alkylsulfinyl, halo-C₁-C₆-alkylsulfinyl, C₁-C₆-alkylsulfonyl, halo-C₁-C₆-alkylsulfonyl, C₂-C₆-alkenylthio, halo-

C₂-C₆-alkenylthio, C₂-C₆-alkenylsulfinyl, halo-C₂-C₆-alkenylsulfinyl, C₂-C₆-alkenylsulfonyl, halo-C₂-C₆-alkenylsulfonyl and NR₂R₃.

9. Use of a compound of formula according to claim 1, wherein

R₄, R₅, R₆, R₇, R₈, R₉, R₁₀, R₁₁, R₁₂ and R₁₃, independently of one another, are hydrogen, halogen, nitro, C₁-C₄-alkyl, halo-C₁-C₄-alkyl, C₁-C₄-alkoxy or halo-C₁-C₄-alkoxy.

10. Use of a compound of formula according to claim 1, wherein

R₄, R₅, R₆, R₇, R₈, R₉, R₁₀, R₁₁, R₁₂ and R₁₃, independently of one another, are hydrogen, halogen, nitro, C₁-C₂-alkyl or halo-C₁-C₂-alkyl.

11. Use of a compound of formula according to claim 1, wherein

R₄, R₅, R₆, R₇, R₈, R₉, R₁₀, R₁₁, R₁₂ and R₁₃, independently of one another, are hydrogen, halogen, nitro or CF₃.

12. Use of a compound of formula according to claim 1, wherein

X₁ and X₂, independently of one another, are NR₁₄, O or S.

13. Use of a compound of formula according to claim 1, wherein

X₁ and X₂, independently of one another, are NH, O or S.

14. Use of a compound of formula according to claim 1, wherein

X₁ and X₂ are O.

15. Use of a compound of formula according to claim 1, wherein

R₁₄ and R₁₅, independently of one another, signify hydrogen, C₁-C₄-alkyl, formyl, C₁-C₄-alkylcarbonyl.

16. Use of a compound of formula according to claim 1, wherein

R₁₄ and R₁₅, independently of one another, signify hydrogen or C₁-C₄-alkyl.

17. Use of a compound of formula according to claim 1, wherein

R₁₄ and R₁₅ signify hydrogen.

18. Use of a compound of formula according to claim 1, wherein

R₁ is hydrogen, halogen, NO₂, C₁-C₆-alkyl, halo-C₁-C₆-alkyl, C₁-C₆-alkoxy, halo-C₁-C₆-alkoxy, C₃-C₆-cycloalkyl, halo-C₃-C₆-cycloalkyl, C₃-C₆-cycloalkyloxy, C₃-C₆-cycloalkylthio, C₁-C₆-alkylthio or halo-C₁-C₆-alkylthio;

R₂ and R₃, independently of one another, signify hydrogen, C₁-C₆-alkyl, formyl, C₁-C₆-alkylcarbonyl, C₁-C₆-alkoxycarbonyl, C₁-C₆-alkylaminocarbonyl, di-C₁-C₆-alkylaminocarbonyl or benzyl;

R₄, R₅, R₆, R₇, R₈, R₉, R₁₀, R₁₁, R₁₂ and R₁₃, independently of one another, are hydrogen, halogen, cyano, nitro, C₁-C₆-alkyl, halo-C₁-C₆-alkyl, C₁-C₆-alkoxy, halo-C₁-C₆-alkoxy, C₃-C₆-cycloalkyl, C₁-C₆-alkylthio, halo-C₁-C₆-alkylthio or unsubstituted or one- to five-fold substituted aryl or unsubstituted or substituted hetaryl, the substituents selected from the group consisting of halogen, cyano, OH, SH, NO₂, COOH, COOR₂, CONH₂, CONR₂R₃, SO₃H, SO₂NR₂R₃, C₁-C₆-alkyl, halo-C₁-C₆-alkyl, C₁-C₆-alkoxy, halo-C₁-C₆-alkoxy, C₂-C₆-alkenyl, halo-C₂-C₆-alkenyl, C₂-C₆-alkinyl, C₃-C₆-cycloalkyl, halo-C₃-C₆-cycloalkyl, C₃-C₆-cycloalkyloxy, C₃-C₆-cycloalkylthio, C₂-C₆-alkenyloxy, halo-C₂-C₆-alkenyloxy, C₁-C₆-alkylthio, halo-C₁-C₆-alkylthio, C₁-C₆-alkylsulfonyloxy, halo-C₁-C₆-alkylsulfonyloxy, C₁-C₆-alkylsulfinyl, halo-C₁-C₆-alkylsulfinyl, C₁-C₆-alkylsulfonyl, halo-C₁-C₆-alkylsulfonyl, C₂-C₆-alkenylthio, halo-C₂-C₆-alkenylthio, C₂-C₆-alkenylsulfinyl, halo-C₂-C₆-alkenylsulfinyl, C₂-C₆-alkenylsulfonyl, halo-C₂-C₆-alkenylsulfonyl and NR₂R₃;

X₁ and X₂, independently of one another, are NR₁₄, O or S; and

R₁₄ signifies hydrogen, C₁-C₄-alkyl, formyl, C₁-C₄-alkylcarbonyl.

19. Use of a compound of formula according to claim 1, wherein

R₁ is hydrogen, halogen, NO₂, C₁-C₆-alkyl, halo-C₁-C₆-alkyl, C₁-C₆-alkoxy or halo-C₁-C₆-alkoxy;

R₂ and R₃, independently of one another, signify hydrogen, C₁-C₄-alkyl, formyl, C₁-C₄-alkylcarbonyl or benzyl;

R₄, R₅, R₆, R₇, R₈, R₉, R₁₀, R₁₁, R₁₂ and R₁₃, independently of one another, are hydrogen, halogen, nitro, C₁-C₄-alkyl, halo-C₁-C₄-alkyl, C₁-C₄-alkoxy or halo-C₁-C₄-alkoxy; and

X₁ and X₂, independently of one another, are NH, O or S.

20. Use of a compound of formula according to claim 1, wherein

R₁ is hydrogen, C₁-C₆-alkyl or C₁-C₆-alkoxy;

R₂ and R₃, independently of one another, signify hydrogen, C₁-C₂-alkyl, formyl or benzyl;

R₄, R₅, R₆, R₇, R₈, R₉, R₁₀, R₁₁, R₁₂ and R₁₃, independently of one another, are hydrogen, halogen, nitro, C₁-C₂-alkyl or halo-C₁-C₂-alkyl; and

X₁ and X₂ are O.

21. Use of a compound of formula according to claim 1, wherein

R₁ is hydrogen, C₁-C₆-alkyl or C₁-C₆-alkoxy;

R₂ and R₃, independently of one another, signify hydrogen, C₁-C₂-alkyl, formyl or benzyl;

R₄, R₅, R₆, R₇, R₈, R₉, R₁₀, R₁₁, R₁₂ and R₁₃, independently of one another, are hydrogen, halogen, nitro or CF₃; and

X₁ and X₂ are O.

22. Ectoparasiticide composition comprising a compound of the formula I as defined in any one of claims 1 to 20 and a physiologically acceptable carrier and/or dispersant.

23. Ectoparasiticide composition according to claim 22 consisting of a pour-on or spot-on formulation.

24. Method of controlling ectoparasites, whereby an effective amount of at least one compound of formula I according to claim 1 is administered to the habitat of the parasites.

25. Use of a compound of the formula I as defined in any one of claims 1 to 21 for the preparation of an ectoparasiticide composition according to claim 22.

26. Compound of the formula I as defined in any one of claims 1 to 21 for the use in the treatment of ectoparasites on non-human animals.